

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petitions
of Texaco, Inc., and the Depart-
ment of Fish and Game for Review
of Order No. 75-90 (NPDES Permit
No. CA0003778) of the California
Regional Water Quality Control
Board, Los Angeles Region.
Our Files Nos. 87a and 87b.

Order No. WQ 77-18

BY THE BOARD:

On December 16, 1974, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), adopted Order No. 74-526 (NPDES Permit No. CA0003778) establishing waste discharge requirements for the Texaco, Inc., petroleum refinery in Wilmington, California. On January 17, 1975, the State Water Resources Control Board (State Board) received a petition for review of Order No. 74-526 filed by Texaco.

On July 21, 1975, the Regional Board adopted Order No. 75-90 (NPDES Permit No. CA0003778) which established modified waste discharge requirements for the above facility and rescinded Order No. 74-526. On August 21, 1975, the State Board received a petition for review of Order No. 75-90 filed by Texaco. In addition, the State Board received a petition for review of Order No. 75-90 filed by the California Department of Fish and Game (Department). On October 16, 1975, the State Board adopted Order No. 75-28 dismissing

Texaco's petition for review of Order No. 74-526 and granting Texaco leave to amend its petition for review of Order No. 75-90.

On February 16 and March 14, 1977, the State Board received final arguments and comments from the Department and Texaco. Since these two petitions relate to the same waste discharge requirements on the Texaco Wilmington refinery adopted on July 21, 1975, and are consequently factually and legally related, the State Board herein consolidates the proceedings and will consider these two petitions together in this Order.^{1/}

Background

Texaco operates a petroleum refinery at 2101 East Pacific Coast Highway, Wilmington, California, and discharges up to 2.88 million gallons per day of wastewater from petroleum processing facilities which include atmospheric and vacuum distillation, thermal cracking, delayed coking, catalytic cracking, catalytic reforming, alkylation, production finishing operations, associated tank farm operations, ballast water disposal, steam generation, hydrogen generation, hydrocracking, hydrotreating, desalting, and other incidental wastes such as boiler blowdown, wastewater oxidizer discharge, etc. During the rainy season, an estimated maximum of 2.88 mgd of treated storm runoff is discharged from the facility, and, at times, wastes from the Texaco sulfur recovery plant located in Carson, which operates under NPDES Permit No. CA0002020, may also be changed. The wastewater is treated by screening, gravity

1. Section 2054, Subchapter 6, Chapter 3, Title 23, California Administrative Code.

separation of oil and solids with sludge thickening and land disposal, equalization ponds, pre-aeration, chemical coagulation, air flotation, chlorination and stabilization, and is discharged to Dominguez Channel, a water of the United States, at a point about 300 feet northerly of Pacific Coast Highway, within the tidal prism. About 0.58 mgd of process wastes are discharged to the community sewer system and are not subject to these waste discharge requirements. Texaco estimates the average discharge at 2.0 mgd.

Order No. 75-90 contains separate limitations for normal wastewater effluent, stormwater runoff discharge, ballast water discharge and the discharge of wastewater from the Carson sulfur recovery facility^{2/} as well as standard limitations which apply to all waste discharges.

Contentions and Findings

1. Contention: Texaco contends that effluent limitations in Order No. 75-90 should be expressed solely in terms of mass emission rates (e.g., pounds per day) and not in terms of concentration rates (e.g., mg/l)..

Findings: Our regulations provide that "Effluent limitations shall specify the average and maximum allowable mass emission of pollutants in terms of pounds per day, or if not appropriate, in another technically correct and precise manner."^{2/} This provision

2. These limitations are not applicable at such times as waste is being discharged at the sulfur recovery plant location.
3. Section 2235.5(b)(4), Article 5, Subchapter 9, Chapter 3, Title 23, California Administrative Code.

should not be construed to limit the Regional Board's authority in prescribing effluent limitations in terms of concentrations. The Regional Board, in its discretion, has the authority to prescribe limitations in terms of concentrations in addition to mass emission rates. Mass emission rates alone are an ineffective control mechanism for wastewater sources such as this facility with highly variable flow rates due to ballast water discharge and stormwater runoff, since they provide little inducement for good treatment during periods of low flow.

Consequently, we find that it was appropriate in this case for the Regional Board to establish both mass emission rates in order to protect receiving waters and concentration limits for some constituents to assure that the treatment facilities are efficiently operated during low flow periods.

Petitioner argues that the imposition of concentration limits will discourage water conservation at the facilities involved. Our finding that imposition of concentration limitations by the Regional Board was appropriate and proper does not preclude the petitioner from requesting a modification in the concentration limits at such time as petitioner has developed a specific plan for water conservation. The Board enthusiastically supports water conservation efforts by water users and in order not to delay implementation of water conservation measures by Texaco the Regional Board is directed to consider any request filed by Texaco for a modification in concentration limitations

pursuant to this paragraph in the minimum possible time consistent with applicable notice requirements. However, complete elimination of otherwise sound concentration limitations based on a contention that petitioner may at some time in the future decide to implement a water conservation program is inappropriate.

2. Contention: Texaco contends that the chromium limits are too stringent.

Findings: Order No. 75-90 limits the discharge of total chromium in excess of 0.01 mg/l daily maximum and 0.005 mg/l monthly average. These concentration limits are similar to those prescribed for ocean discharges in the Water Quality Control Plan for Ocean Waters of California (Ocean Plan).

This discharge to the Dominguez Channel is not covered by the Ocean Plan, but to impose less restrictive limits would encourage discharge to the Channel which is more vulnerable to adverse effects than the ocean due to its lower dilution capacity

and lower flushing capability. In addition to the substantial increased costs to Texaco which would be necessary to meet the chromium limits, they contend that the use of non-chromate chemical treatment in their cooling tower systems would seriously increase corrosion rates in their mild steel tubing and that this could have other adverse effects on the environment. We are aware of the difficulties involved in complying with Ocean Plan limits for chromium and it is possible that this limit will be changed as a result of the Ocean Plan review before the Table B limits become effective. Further, as the effective date of the subject chromium limit is the same as the effective date of Table B of the Ocean Plan (July 1, 1978) we find that Texaco should be given the same opportunity as has been afforded other dischargers to request an extension of the implementation date beyond July 1, 1978, but not exceeding July 1, 1983. (See State Board Resolution 74-5.) Furthermore, Order No. 75-90 expires on June 30, 1978, thus, Texaco should have adequate opportunity to seek such an extension.

3. Contention: Texaco contends that the effluent limitation on visible oil and grease is inappropriate.

Findings: Effluent limitation A 11 of Order 75-90 provides that "Waste discharges shall not contain visible oil and grease, and shall not cause the appearance of grease, oil, or oily slick, or foam in the receiving waters or on channel banks, walls, inverts or other structures". Texaco argues that because the State Board and

EPA had previously agreed not to reference Standard Provision 10⁴ in permits the visible oil and grease standard is also inappropriate.

We disagree with the petitioner's argument. Standard Provision 10 was dropped in order to avoid the possibility of dual enforcement proceedings under §§ 311 and 402 of the Federal Water Pollution Control Act. However, this does not mean that a Regional Board cannot adopt oil and grease standards. The Water Quality Control Plan for the Los Angeles Basin includes water quality objectives for oil and grease. The Plan states:

"Waters shall not contain oil, grease, or materials of petroleum origin in concentrations that create or cause to be created a visible film on the surface of the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The Regional Board has prescribed both limitations on oil and grease concentrations and on visible oil and grease caused by the discharge. The former is readily measurable and provides a justifiable basis for enforcement proceedings, while the latter is adequate to protect the esthetic quality of Dominguez Channel. We find that the Regional Board's action in prescribing limitations on the visible oil and grease for this discharge to be appropriate and proper.

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4. "There shall be no discharge of harmful quantities of oil or hazardous substances, as specified by regulation adopted pursuant to §311 of the Federal Water Pollution Control Act, or amendments thereto."

4. Contention: Texaco contends that Standard Provision 11^{5/} is inadequate in that it fails to provide protection for self incrimination and protection against non-compliance during malfunction, start-ups and shut-down operations and due to the acts of third parties.

Findings: This same contention was made to the State Board by Union Oil Company of California in its petition for review of Order No. 74-152 (NPDES Permit No. CA0005053). Our response to that contention is found in State Board Order No. WQ 75-16, wherein it is stated:

"We recognize that influent quality changes, equipment malfunction, facilities start up and shutdown or other circumstances may sometimes result in the effluent exceeding permit limitations despite the exercise of reasonable care by petitioner. In these cases the petitioner may come forward to demonstrate to the Regional Board that such circumstances exist. The Regional Board will consider these factors in exercising their (sic) discretionary authority in determining noncompliance and for enforcement purposes. Regional Board enforcement actions must be reasonably based pursuant to public

5. In the event the discharger is unable to comply with any of the conditions of this Order due to:

- (a) breakdown of waste treatment equipment;
- (b) accidents caused by human error or negligence; or
- (c) other causes such as acts of nature,

the discharger shall notify the Executive Officer by telephone as soon as he or his agents have knowlege of the incident and confirm this notification in writing within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

hearing and due process protections. Limitless facts and possibilities exist regarding upset conditions and each case must be reviewed on its own merits. To limit this discretion of the Regional Board would be to impair seriously the purpose and enforcement provisions of the Federal Water Pollution Control Act."

The Regional Board is not required to include a provision related to upsets, breakdowns, malfunctions of the treatment facility or treatment equipment in NPDES permits and did not err in adopting Order No. 75-90 without such provision or allowance. In addition, corporations are not entitled to the privilege against self-incrimination as contended by the petitioner.^{6/}

5. Contention: Texaco contends that a provision should be included in the requirements to provide for variability of non-representative sampling and testing results.

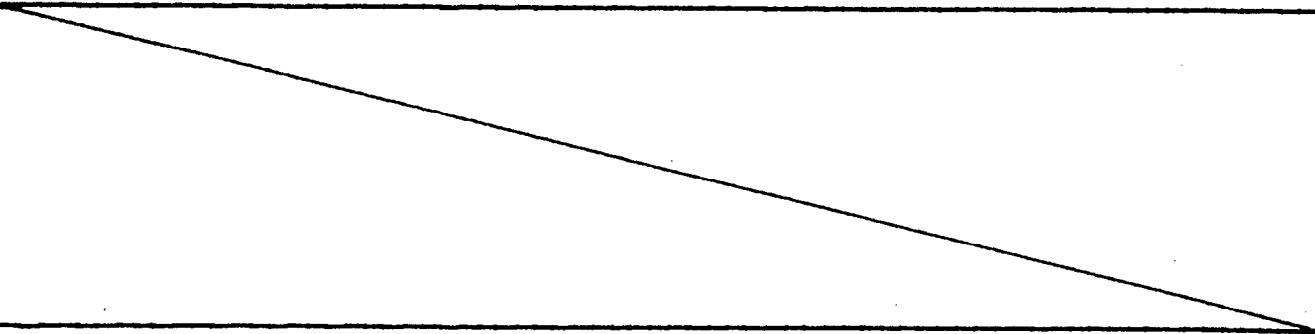
Findings: The effluent limitations in Order No. 75-90 provide for averages and maximums. Averages do provide for variability of non-representative samples while maximums provide upper limits which cannot be exceeded without resulting in water quality degradation. The maximums in this permit are considerably higher than the averages which permits some variability in sampling results. It is the duty of Texaco to treat the effluent in such a manner that such variability will not result in non-compliance. Further, the discharger, as in the case of equipment malfunctions and influent quality changes, has the option of coming forward to demonstrate, if and when an enforcement action is under consideration, that a given sample was non-representative. We find this contention without merit.

6. 17 Cal.Jur.3d at 307, 308

6. Contention: The Department contends that this waste discharge is subject to the Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays & Estuaries Policy) and that the discharge should, therefore, be eliminated at the earliest practicable date.

Findings: The Bays and Estuaries Policy provides that the discharge of "industrial process waters...shall be phased out at the earliest practicable date". Industrial process waters may not apply to treated ballast waters and certain innocuous non-municipal wastewaters under the Policy.^{7/}

It appears that some of the wastewater from the Texaco refinery may not constitute "industrial process waters" of the type prohibited under the Bays and Estuaries Policy. However, if we presume that some of the waste streams are prohibited "industrial process waters" the crucial question is whether or not the Dominguez Channel is a bay or estuary of the type protected pursuant to



7. "For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, washwater, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water."

the Bays and Estuaries Policy.^{8/}

The Dominguez Channel constitutes a man-made stormwater conveyance facility, having only very limited mixing of fresh and salt water. It has few beneficial uses of a classic estuary and lacks the existence of an estuarine habitat. It does not fall within the definition of a "bay" as included in footnote 1 of the Policy, and set forth in footnote 8, below, in that there are no headlands or harbor works which enclose the opening of the Channel. Therefore, we find that the Channel is not a bay or estuary protected by the Bays and Estuaries Policy. It is clear, however, that the beneficial uses of the Channel and the waters of the Los Angeles-Long Beach Harbor must be protected by the application of waste discharge requirements consistent with water quality objectives to protect those uses.

8. "Enclosed bays are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outer most harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes, but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

"Estuaries, including coastal lagoons, are waters at the mouths of streams which serve as mixing zones for fresh and ocean waters.

"Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as clusters. Entering waters will generally be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters shall be considered to extend seaward if significant mixing of fresh and saltwater occurs in the open coastal waters. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers."

7. Contention: The Department contends that limitations on BOD, COD, phenols, ammonia, nitrogen, suspended solids, oil and grease and toxicity should be more stringent in order to protect the receiving waters.

Findings: Order No. 75-90 contains mass emission rates for BOD, COD, phenols, ammonia, nitrogen, suspended solids and oil and grease but does not contain concentration limits for these waste constituents.^{9/}

The Water Quality Control Plan for Los Angeles River Basin includes the following objectives for Los Angeles Harbor:

"Dissolved oxygen shall not fall below 5.0 mg/l at any time as the result of waste discharges; when natural factors cause lesser concentrations, then controllable water quality factors shall not cause further reduction.

"For that area known as the outer harbor area of Los Angeles-Long Beach Harbors, the mean annual dissolved oxygen concentrations shall be 6.0 mg/l or greater, provided that no single determination shall be less than 5.0 mg/l. When natural conditions cause lesser concentrations, then controllable water quality factors shall not cause further reduction."

Although dissolved oxygen concentration in the Dominguez Channel is above 5.0 mg/l a majority of the time, recent data indicates that dissolved oxygen concentrations lower than 5 mg/l occasionally occur in the Channel. Depressed levels of dissolved oxygen in the Dominguez Channel are due to high mass loading of oxygen demanding waste rather than the concentration of oxygen demanding wastes in individual discharges.

9. Oil and grease concentrations are included for the wastewater effluent but not for the stormwater and ballast water discharges.

The Department cites a study conducted by Montgomery, in 1962^{10/} which concluded that the waste assimilative capacity of the Channel (allowing a 25 percent reserve capacity for future discharges) in order to maintain a concentration of 5.0 mg/l dissolved oxygen is no more than 6,500 pounds per day of ultimate first stage biochemical oxygen demand discharged into Dominguez Channel from all sources combined. Conditions have improved substantially in the Channel and in the receiving waters of the Harbor since this study by diversion of most of industrial waste to the sanitary sewers, implementation of tighter control on the quality of the discharged wastewater, and as a result of widening and deepening of the Dominguez Channel. Therefore, the recommended assimilative capacity of 6,500 lbs/per day by Montgomery is low and does not apply to the present condition of the Dominguez Channel. Nevertheless, the total BOD mass emission rate allowed by the Regional Board is within this range (5,608 lbs/day average). The Board finds that the effluent limitation prescribed by the Regional Board for total mass loading of BOD and COD is sufficient and no appreciable benefit is gained regarding dissolved oxygen concentrations in the receiving water by prescribing concentration limits for BOD and COD for this discharge.

10. Montgomery, J. M. 1962. Waste Assimilative Study of Dominguez Channel. Report to California Regional Water Quality Control Board No. 4.

We find little merit to the Department's contention that mass emission limits alone do not prevent the discharge of high concentrations of pollutants as equalization in the holding reservoir in this case effectively minimizes the possibility of "slug" pollutants. However, due to the intermittent and variable nature of the discharge which we have noted in Finding No. 1 above, the Regional Board should prescribe reasonable concentration limits for BOD to insure efficient operation and treatment based upon data collected during periods that the treatment plant was being operated efficiently. Should Texaco prepare and propose to implement a specific plan for water conservation, the degree of water conservation proposed could be taken into account by the Regional Board in setting its requirements, as discussed under Contention No. 1, above.

Order No. 75-90 contains no concentration limit for phenols, ammonia nitrogen, or suspended solids. These parameters are contained in the Ocean Plan and imposed on dischargers to the Los Angeles Harbor. We find no reason for the elimination of the concentration limits for these parameters in this case. Moreover, to impose less stringent limits than those prescribed by the Regional Board to similar discharges to ocean and Los Angeles Inner and Outer Harbors would encourage discharge to the Dominguez Channel which is more vulnerable to adverse effects than the ocean or Los Angeles Inner and Outer Harbors due to its lower dilution capacity and lower flushing capability. Providing encouragement to discharge to such waters is not the intent of this Board. Therefore,

concentration limits should be included for phenols, ammonia nitrogen and suspended solids. The compliance date comments in Finding No. 2 above should also apply to this limitation. We find the oil and grease concentration limits included in the requirements to be appropriate.

Order No. 75-90 does not include an effluent toxicity limit. When these requirements are modified as stated above, the requirements will be the same as those contained in the Ocean Plan. The Ocean Plan limits were established with the intent of minimizing acute and chronic toxicity. If the discharge is in compliance with such limits, the discharge should not pose a significant threat to fish and aquatic life. The Board finds that no appreciable benefit would be gained by imposing costly toxicity bioassay tests for the effluent and therefore finds this contention without merit.

Consistency of Requirements

This order and State Board Order No. 77-19, adopted this same date, have been prepared to respond to the particular contentions of the petitioners involved. Each order requires modifications in specified effluent and/or receiving water limitations. As a result of the required modifications, if no action were taken to rectify the two permits the permits would differ in their requirements regarding a number of wastewater constituents, including suspended solids, ammonia nitrogen, phenols, BOD and pH. The Regional Board should take note of this fact and, to the extent consistent with the explicit requirements of the two Orders and effective water pollution control, the provisions of both permits should be made uniform.

Conclusions

After review of the record and for the reasons heretofore expressed, we reach the following conclusions:

1. The limitations for BOD, phenols, ammonia nitrogen and suspended solids in Order No. 75-90 should be revised in accordance with Finding No. 7 above.

2. In all other respects Order No. 75-90 is appropriate and proper.

Order

IT IS HEREBY ORDERED that the California Regional Water Quality Control Board, Los Angeles Region, shall review and revise Order No. 75-90 consistent with the findings and conclusions of this order.

Dated: August 18, 1977

/s/John E. Bryson,
John E. Bryson, Chairman

/s/W. Don Maughan,
W. Don Maughan, Vice Chairman

/s/W. W. Adams,
W. W. Adams, Member